

(19) (KR)
(12) (B1)

(51) 。 Int. Cl. ⁶
B41J 2/45
H01L 31/10

(45) 2001 07 12
(11) 10 - 0294952
(24) 2001 04 23

(21) 10 - 1999 - 0019363 (65) 1999 - 0088621
(22) 1999 05 28 (43) 1999 12 27

(30) 1998 - 149011 1998 05 29 (JP)

(73) 가 가

3 30 2

(72) 3 30 2 가 가
3 30 2 가 가

(74)

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(54) -

(T2) , (ø 1, ø 2, ø l, ø S) (ø m)

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, SLED , , ,

1 1 SLED
2 SLED
3 SLED
4 SLED
5 SLED
6 2 SLED
7 SLED
8 SLED
9
10a 10b

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1 5 :

11 15 :

51 :

211 :

212 :

213 :

214 : IC

216 :

LED

가

LED (, SLED)

LED 1 - 238972, 2 - 208067, 2 - 212170, 3 - 20457, 3 -
 194978, 4 - 5872, 4 - 23367, 4 - 296579, 5 - 84971, JAPAN HARD COPY, 91(A
 - 17) , 1990 3 5 IEICE(
) PNPN (SLED) ,
 , SLED

8 SLED

(211) SLED (212) SLED (211) (214)
 , SLED (211) IC
 (215) IC(214) (ø 1, ø 2, ø 1, ø S) (216) (212)
 , GND) SLED (211) (217) (212)
 (+) (, +5V) (216) SLED (211)

SLED (211) 가 , (GaAs
 가) P N 가

(+) (,)

, SLED (211) (212) (216)

, SLED (211) (217) (211) (217())

(217) 600 μ m

가 , SLED

가 가

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), LED(),
(ø 1, ø 2, ø S, ø I) (/ ø m
(+5V) .
)가

, LED
(GND) $\varnothing 1, \varnothing 2, \varnothing S, \varnothing I$, (/ $\varnothing p$),

[1]

1 5

1

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1 3

LED(SLED)

2 SLED

1 2 . (211) SLED

SLED (211), (1 5), (11 15)

가 (1 5) , +5V (50) (ø D) (ø I)
 (20) .

(11 15) , +5V (50) (ø1 ø2)
 (1 2) (21 22) .

$$15) \quad (1 \quad 5) \quad . \quad (41 \quad 45) \quad (31 \quad 35) \quad (31 \quad 35) \quad (11 \quad .$$

(\emptyset S) \ntriangleright (23) (31) (41) 'a'

(212) SLED (211) . SLED (211)

(213) (213) / (ø m) (52), (ø 1,
ø 2, ø S, ø I) (20 23), +5V (50), (53)

(214) , SLED (211)
IC

3 , (215) IC(214) (ø 1, ø 2, ø S, ø I)
(, (53) GND) SLED (211)

(216) (212) (, +5V)

(217) (212) (216) SLED (211)

()

, SLED

4 SLED (211) (1 5)
(ø 1, ø 2, ø S, ø I), / (ø m) (1 5)가 (ø D)

4 , (T1) LED () .
(T2) ()

() / (T2) (ø m) (ø 1, ø 2, ø S, ø I) (+5V)

(T1) SLED ,

(T2) (T2) , (ø 1, ø 2, ø S, ø I) +5V
, / (ø m) 0V , (201)가

) , () SLED (211) () ,
가 가

, SLED (211) (211) (212)
(217) ,

, LED SLED (211)

, 가 (, LED 가
) 가 , 가 , 가
, 가 가 .

, 4 , , / (ø m)
 (ø 1, ø 2, ø S, ø l) . ,

가 CPU

, 5 4 (T1) (2 SLED)

5 SLED

2	, SLED	(11	15)	(1	5)
	.		1	\emptyset S	.
	\emptyset S	(41)		3	(4

ø S 0V 5V . ø S가 5V , Va 5V, Vb 3.7V(가 1.3V 가), Vc 2.4V, Vd 1.1V , , , 0V (11 12) 0V 5V 3.7V .

, ø 1 5V 0V , , (11) 5V ,
 (11) 0V , , 3.7V ,
 (11) .

(가 , øS 0V , 가 , 가 , (11)가 , Va 5V) . øS 0V . 1 . 1 .

$$, \quad (11) \quad (12)$$

(1)가 , ø 1 0V (11)
 (11) (Va) 5V Vb 3.7V .

$$, \varnothing 2 \quad 5V \quad 0V \quad , \quad 0V \quad , \quad 3.7V \quad , \quad 5V \quad , \quad (12)$$

가 가 , 가 0V
가 , ø | 3.4V(0)

[2]

, 6 7 2 . , 1

6 SLED

SLED (211), (51) . 1

IC(214) / (ø p) (61) (60) 3 (62) (213) . (60)
, / (ø p) / (ø m)
()

$$7 \quad (\emptyset 1, \emptyset 2, \emptyset S, \emptyset !), \quad \text{SLED} \quad (211) \quad (1 \quad 5) \\ \quad / \quad (\emptyset p) \quad .$$

4 , (T2) . (T1) LED

), (GND) (T2) (ø 1, ø 2, ø S, ø l), ((/ . (ø p

(T1) . (T1) SLED

가

(T1) (T2) . . , (ø 1, ø 2, ø)
 $S, \emptyset 1)$ / (ø p)
 3 (62) . , (+5V) / (ø p)
 (61) . .

(T2) , SLED (211) ()
가 . , 0 ,

, (217) SLED (211) (212)
SLED . SLED . ()

가

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, SLED

가

(57)

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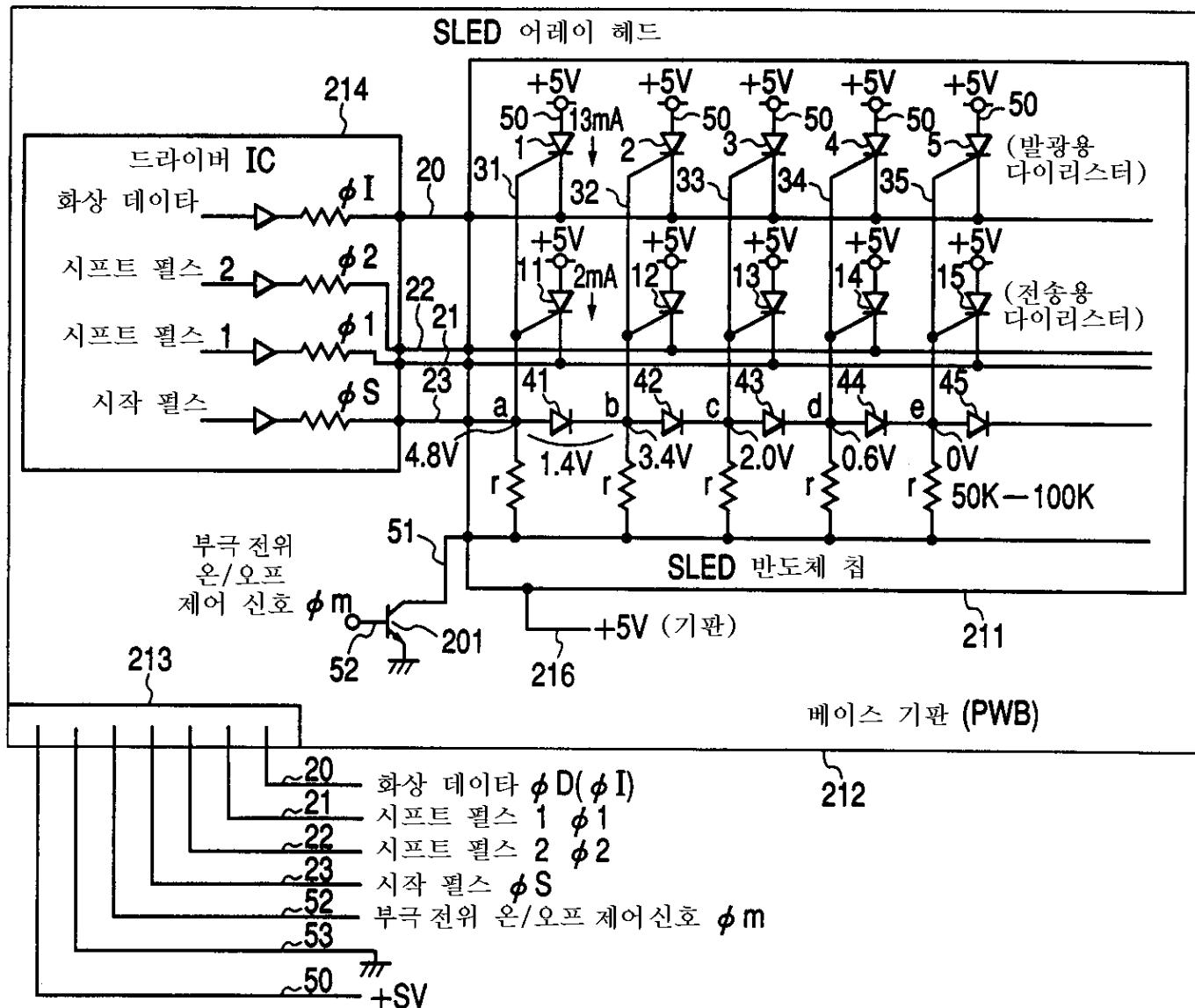
37

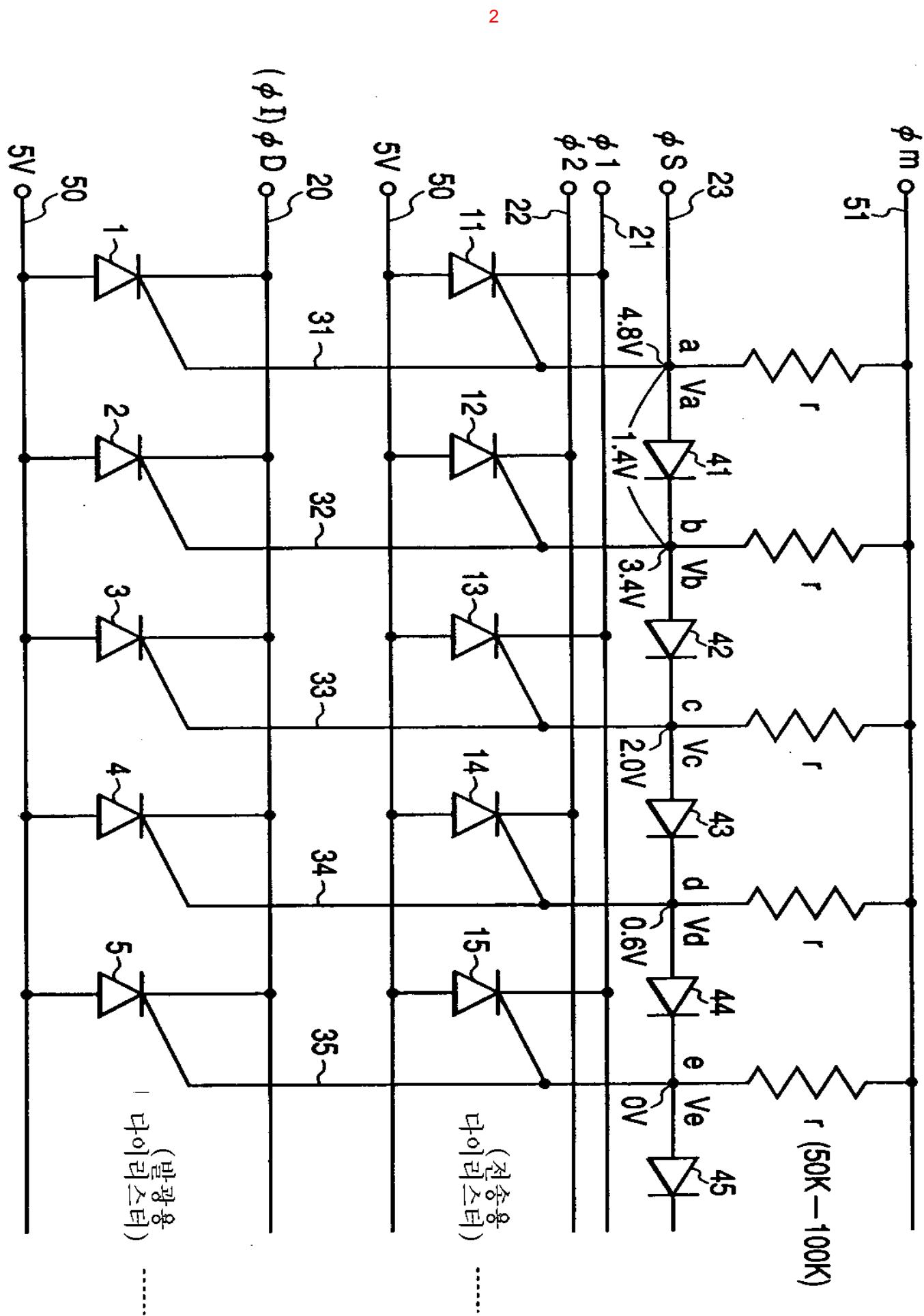
,

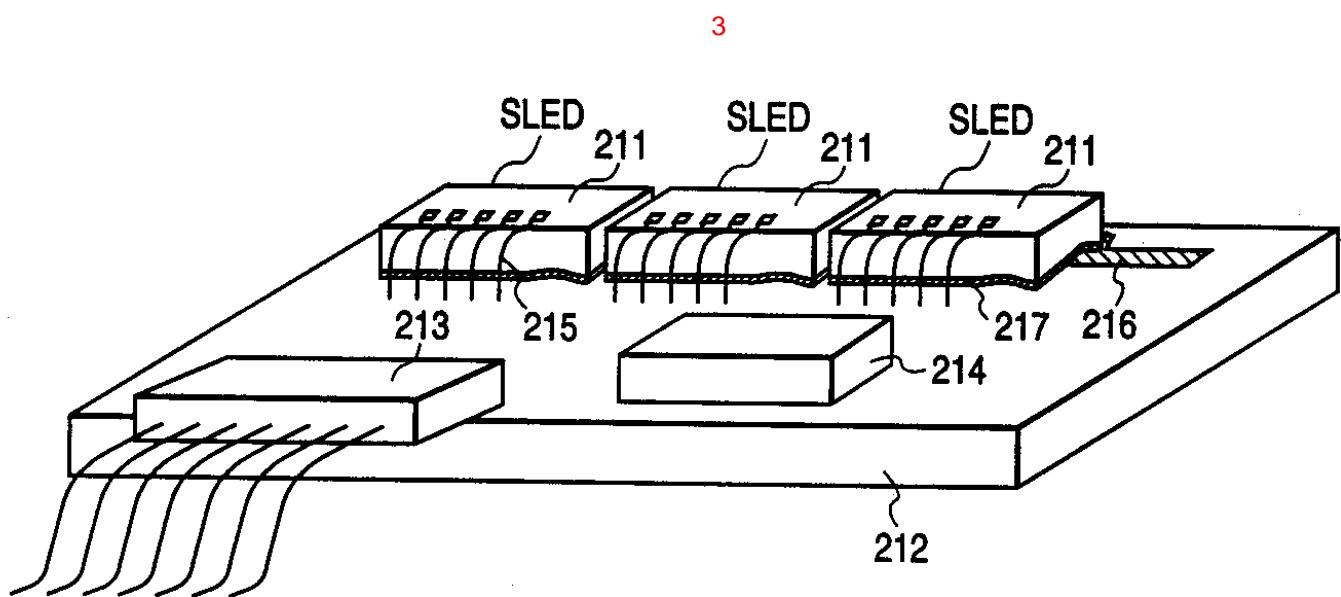
42.

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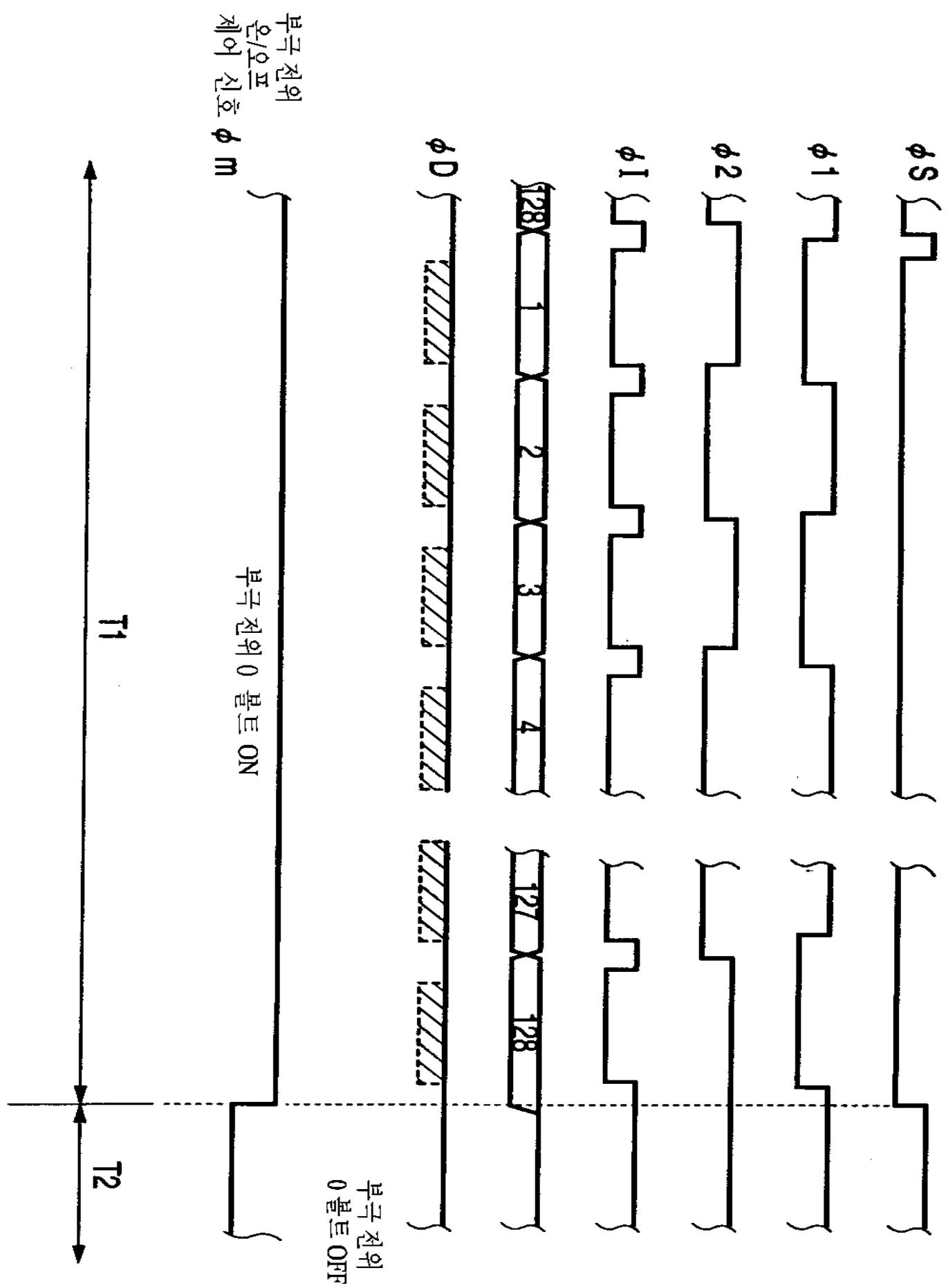
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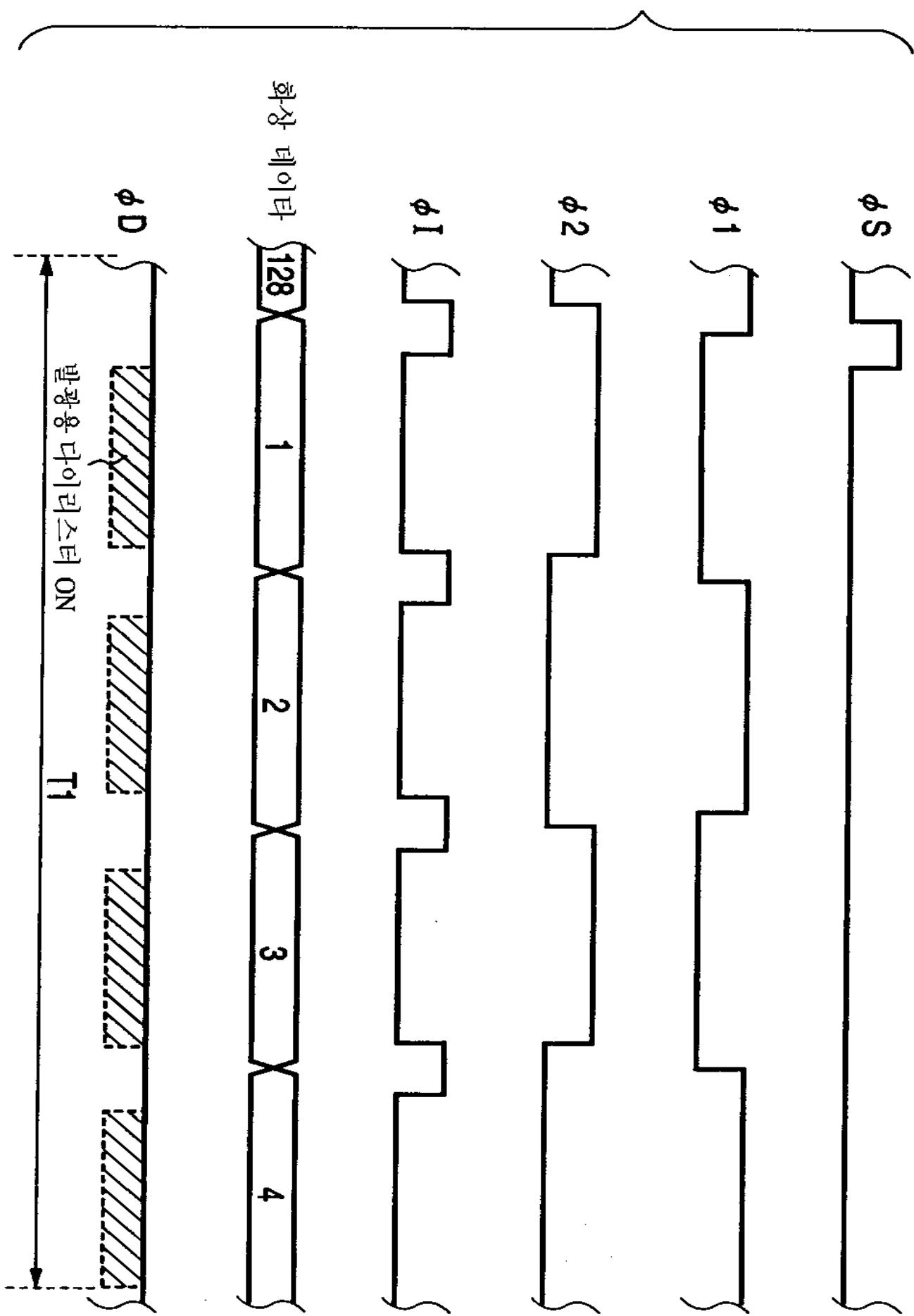


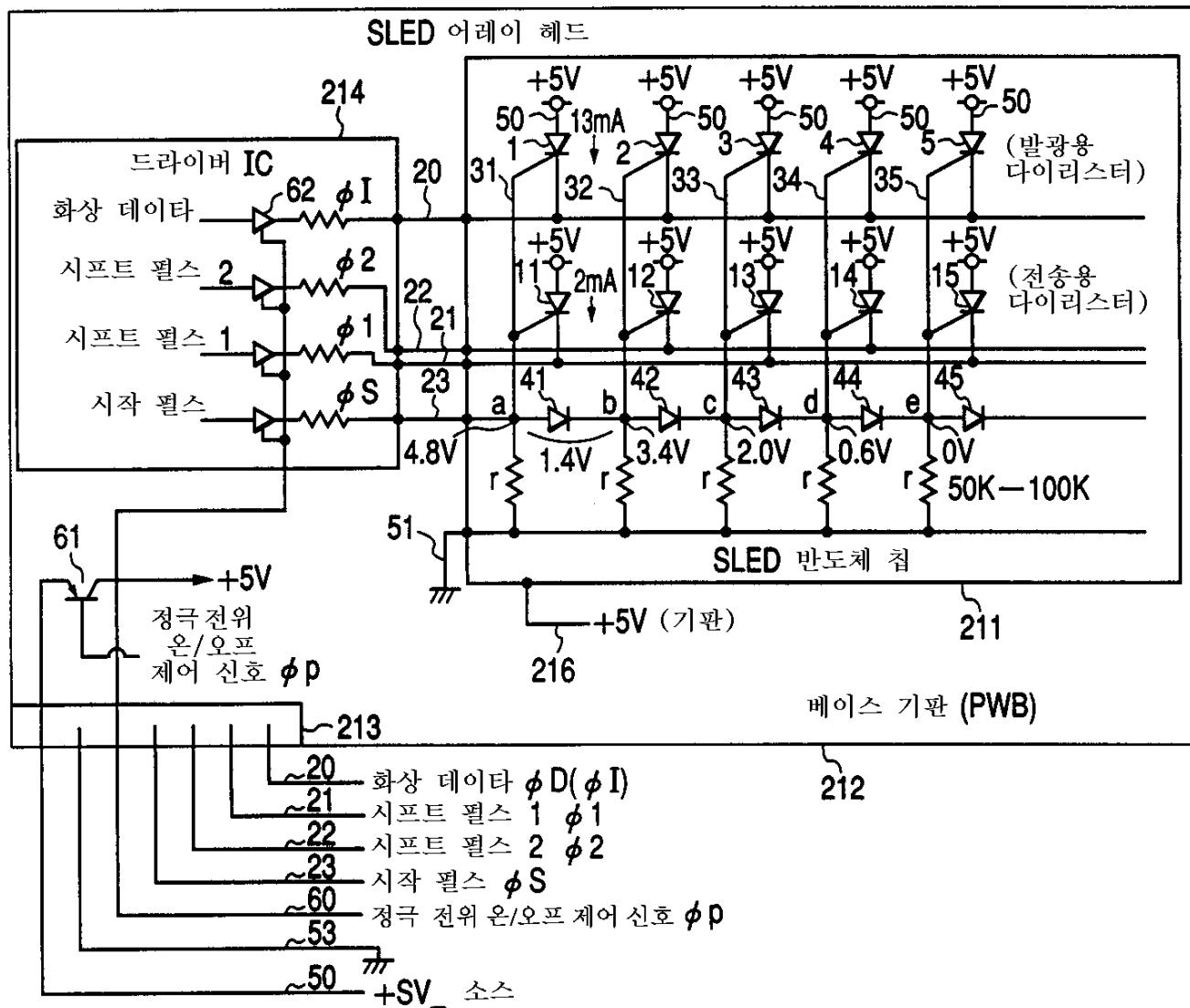


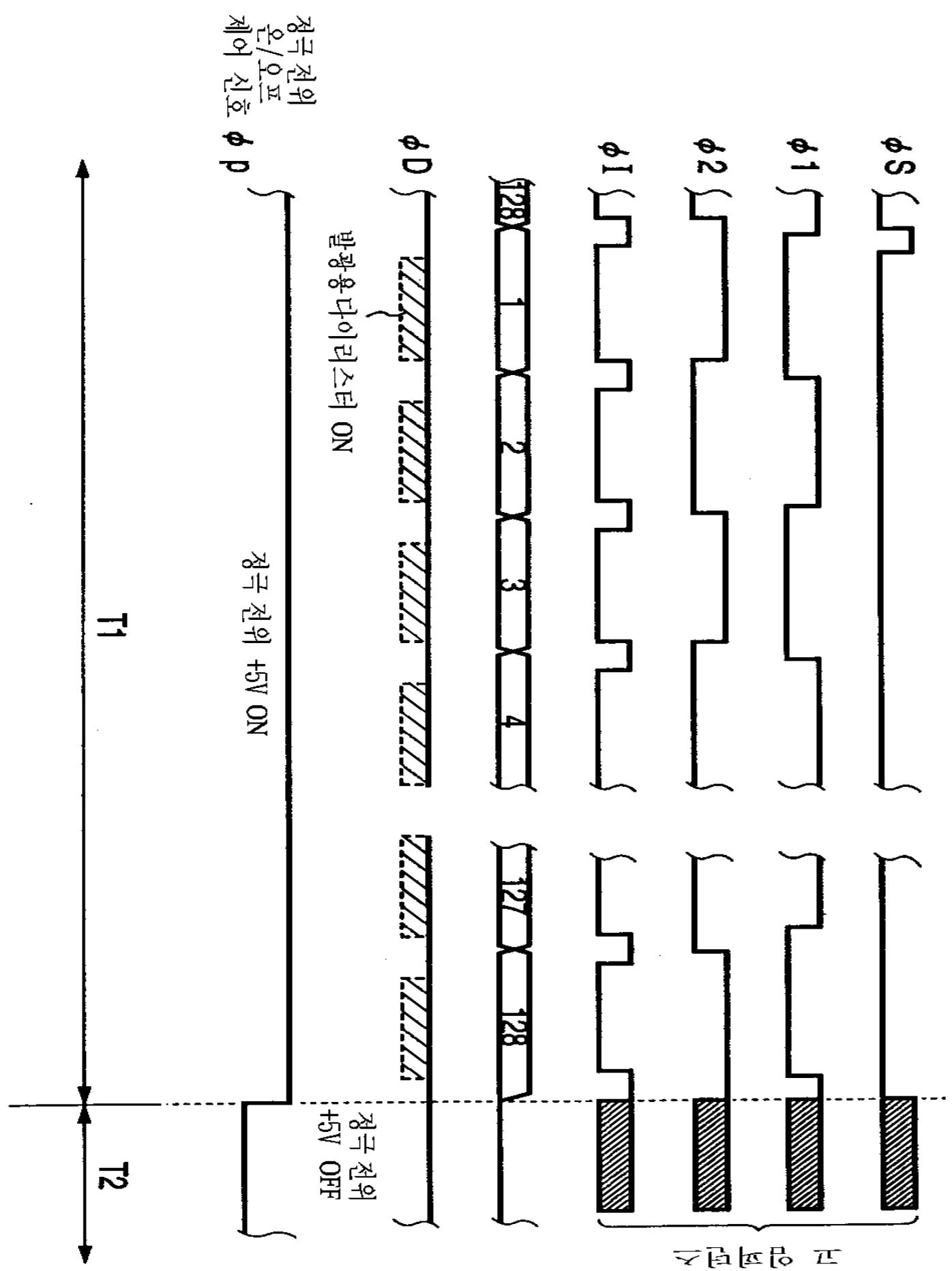
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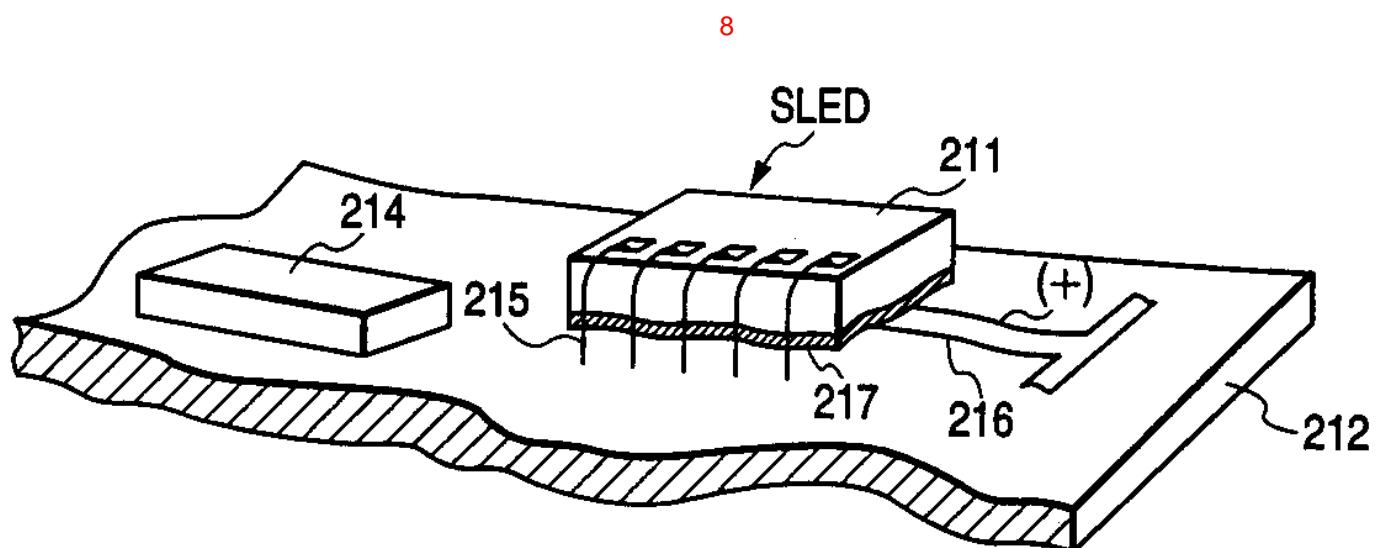


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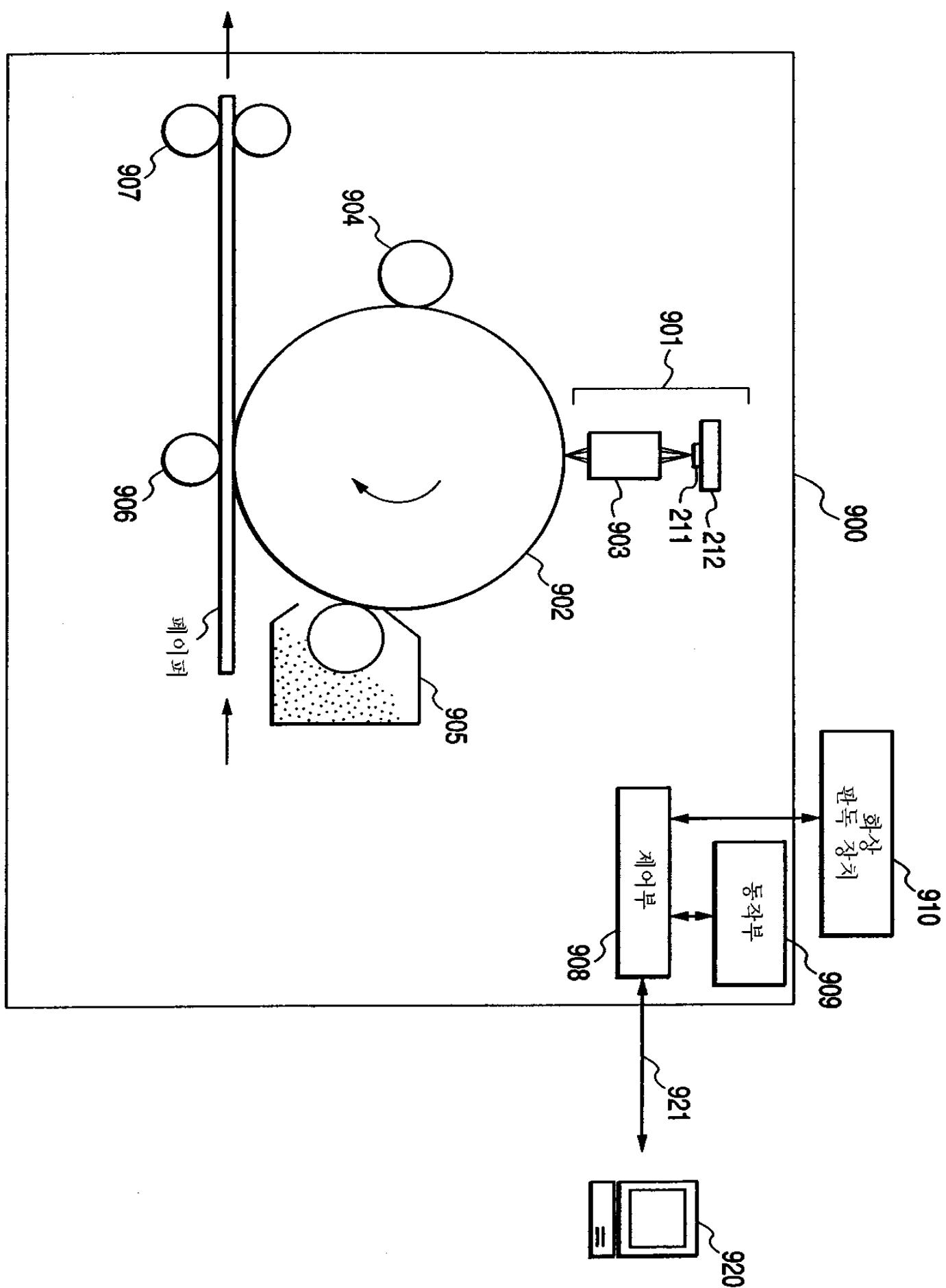


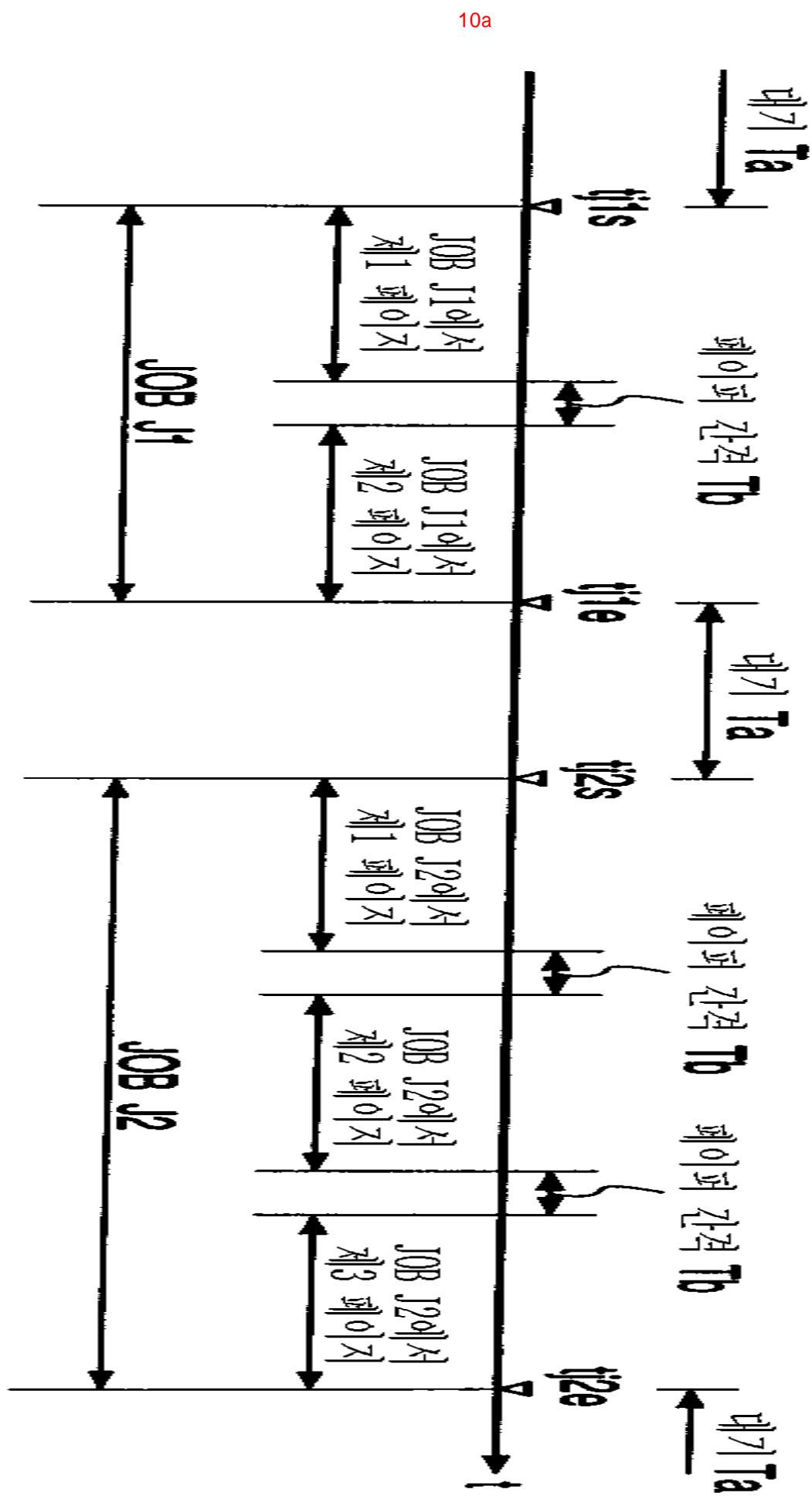






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